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January 5, 2001

Ronald D. Hauber
Director
Division of Non-Proliferation,
Exports and Multilateral Relations
Office of International Programs
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Washington, D.C. 20852

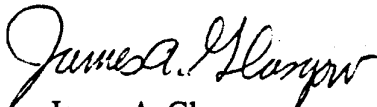
Re: Export License Application No. XSNM 03171

Dear Mr. Hauber:

The NRC's regulations contemplate that the applicant for an export license will have an opportunity to respond to comments submitted by members of the public concerning the application. 10 CFR § 110.81(c). This letter and its attachments constitute AECL's response to the points raised in Nuclear Control Institute's (NCI's) letter, dated December 18, 2000, to NRC Chairman Richard Meserve. AECL's response to NCI's letter is transmitted to the NRC's Office of International Programs because it concerns an export license application that the NRC Staff and the Executive Branch now have under review, in accordance with the Commission's rules and the Executive Branch Procedures pursuant to the Nuclear Nonproliferation Act of 1978. In accordance with §110.81, a copy of AECL's response is provided to the Office of the Secretary of the Commission.

AECL reaffirms its commitment to provide timely and comprehensive responses to the Commission's questions in connection with this export license application.

Sincerely,


James A. Glasgow

JAG/lwr:dgl

Attachment

cc: Robin DeLaBarre, U.S. Department of State
Secretary USNRC: Attention, Rulemakings and Adjudications Staff

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January 5, 2001

AECL's RESPONSE TO NCI'S DECEMBER 18, 2000 LETTER TO CHAIRMAN RICHARD MESERVE, REGARDING AECL's APPLICATION (XSNM 03171) FOR A LICENSE TO EXPORT 10.05kgs OF HEU METAL TO CANADA

I. INTRODUCTION

On October 23, 2000, Transnuclear Inc., on behalf of Atomic Energy of Canada Ltd. (AECL), filed its application for an export license authorizing the shipment of 10.05 kilograms of highly enriched uranium (HEU) metal to AECL's Chalk River site in Canada. As explained in the supplement to that application, AECL needs the HEU metal in order to fabricate targets for irradiation in the NRU Reactor at the Chalk River site. After they are irradiated, the targets are processed by AECL, on behalf of MDS Nordion, in order to extract molybdenum 99 (Mo-99) and other radioisotopes. MDS Nordion distributes such radioisotopes to hospitals and medical clinics for the treatment of patients with life threatening illnesses.

As explained in the supplement to the export license application (XSNM 03171), AECL needs the HEU specified in that application because problems with the operation of safety-related systems of the MAPLE Reactors, coupled with regulatory requirements of the Canadian Nuclear Safety Commission (CNSC), have prevented the MAPLE Reactors from beginning full operational status. Therefore, the production of Mo-99 must be continued at the 43-year old NRU Reactor until the MAPLE Reactors are able to commence operation.

In its December 18, 2000 letter to Chairman Richard Meserve, the Nuclear Control Institute (NCI) states that it does not oppose the export of the 10.05 kilograms of HEU metal requested in AECL's license application, to produce targets for the NRU. Nevertheless, notwithstanding AECL's showing of a clear need for this export, NCI urges the Commission not to issue this export license. Instead, NCI argues that the Commission should amend AECL's

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existing license (XSMN 03060) authorizing export of fabricated uranium dioxide targets for the MAPLE Reactors to allow exports of HEU metal for the purpose of producing targets for the NRU Reactors. It also urges the Commission to require AECL for this purpose to draw upon the remaining quantities of HEU whose export is authorized under XSNM 03060. Despite its assertion that it supports this export, NCI asks the Commission to take actions that are clearly inconsistent with AECL's request for a new license. Moreover, NCI's request that the Commission amend AECL's existing export license can only be sought by NCI through a 10 CFR § 2.206 petition, which embodies a standard that NCI can not meet.

In its December 18, 2000, letter to Chairman Meserve, NCI raises arguments concerning the capacity of the Fissile Solution Storage Tank (FISST) at the target processing facility associated with the NRU Reactor and the ability of AECL to continue operating the NRU and its associated target processing facility while converting the MAPLE Reactors and the New Processing Facility (NPF) to operate with low enriched uranium (LEU) targets. NCI's letter includes quotations from NCI's presentations at the July 10, 2000 public meeting held by the Commission and arguments that are based on NCI's theories and scenarios with respect to operation of the NRU, the MAPLE Reactors and the NPF.

In the attachment to this submission, AECL has responded fully to factual and technical contentions raised by NCI in its December 18, 2000 letter to Chairman Meserve. At the outset, however, AECL will demonstrate why NCI's request is inconsistent with the Commission's rules and should not form the basis for the Commission to call a public meeting concerning XSNM 03171.

NCI's request for a public meeting ignores the distinction between the Commission's rules encouraging written comments from members of the public and the Commission's rules

regarding petitions seeking a hearing and to intervene. If organizations such as NCI are routinely able to interact with the Commission, through public meetings, in essentially the same manner that the Commission normally affords only to persons granted the status of intervenor, the important distinction drawn by the Commission's rules between provision of written comments to the Commission and participation before the Commission as an intervenor will be blurred, if not destroyed.

II. NCI's ARGUMENTS ARE OUTSIDE THE SCOPE OF THIS EXPORT LICENSE APPLICATION

Tacitly recognizing that the Commission has twice denied NCI's petitions to intervene in previous proceedings regarding export of HEU to Canada, NCI states that it elected not to file a request for a hearing or a petition to intervene in this proceeding. Nevertheless, NCI asks the Commission to call a public meeting, in lieu of the hearing that it did not seek or attain, to address (1) NCI's argument that AECL's export license application should be denied and its existing license (XSNM 03060) should be amended; and (2) NCI's theories concerning actions that it contends AECL and MDS Nordion should take in place of their ongoing program to convert from HEU to LEU targets for use in the MAPLE Reactors and NPF. As MDS Nordion explained in its annual report to the Commission last year concerning XSNM 03060, this program consists of a Development Phase (Phase 2) and Implementation Phase (Phase 3) that AECL and MDS Nordion have established in consultation with Argonne National Laboratory (ANL).

In setting forth detailed allegations and proposals and asking the Commission to conduct a public meeting to address its arguments, NCI is seeking the functional equivalent of a hearing and the opportunity to participate in that hearing in a role akin to that of an intervenor. For the

reasons set forth below, AECL submits that NCI's request is manifestly inconsistent with the Commission's rules.

The Commission's rules regarding hearings (Subparts H and I of 10 CFR Part 110) are intended to allow an orderly and focused inquiry by the Commission into the factual and legal contentions raised by those who are allowed by the Commission to participate as parties or intervenors. In proceedings conducted pursuant to Subparts H and I, the applicant has an opportunity to review allegations by intervenors and respond in a manner specified in those Subparts. Attempting to avoid the Commission rules regarding intervention and hearings by seeking a "public meeting" rather than a hearing pursuant to Subpart I, NCI's seeks an opportunity to interact with the Commission, the Executive Branch and the Applicants in a manner that the Commission's rules reserve for those who are parties or intervenors in an export license hearing.

Rather than raising policy issues or arguments grounded in the relevant statute and NRC regulations, NCI's contentions primarily address factual matters associated with the design and operation of the MAPLE Reactors, the NRU and their associated target processing facilities. NCI's arguments are based primarily on its assertions related to the operational status and capabilities of reactors and processing facilities operated by AECL. Such arguments are best left to the NRC staff to resolve, in consultation with the U.S Executive Branch. A public meeting is not an appropriate forum for the Commission to grapple with NCI's detailed and wide-ranging allegations concerning safety-related issues pertaining to Canadian facilities licensed by the Canadian Nuclear Safety Commission (CNSC).

In its December 18, 2000 letter and earlier submissions to the Commission with respect to XSNM 03060, NCI has pursued its theories regarding operation of the NRU, the MAPLE

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Reactors and associated processing facilities. As shown in the attachment to this submission, and in MDS Nordion's reports and presentation to the Commission last year, NCI's theories are inconsistent with operational and regulatory requirements that govern AECL's use of those facilities. For example, NCI's letter incorrectly charges that AECL has played "fast and loose" with its statements to the Commission regarding the capacity of the Fissile Solution Storage Tank (FISST) that performs the essential function of storing radioactive waste from the processing of HEU targets irradiated in the NRU. NCI has repeatedly challenged the good faith of AECL and MDS Nordion. Such ad hominem charges are without any basis. NCI's injection of inflammatory remarks such as these into its presentations to the Commission are an added reason why the Commission should not indulge NCI's request to participate in a public meeting called by the Commission. AECL has properly advised the Commission of the maximum permissible uranium concentration of the FISST under currently applicable CNSC requirements. Contrary to NCI's assertions, AECL has also given the Commission its best estimates of the remaining capacity of the FISST, based on projections concerning the demand for Mo-99 and the status of the construction and licensing of the MAPLE reactors and the NPF.

AECL is mindful of the Commission's need to base its decision upon all relevant information, including the views of members of the public, such as NCI. AECL has responded promptly to questions and requests from the NRC staff and the Commission regarding this and other applications for licenses to export HEU to Canada to produce radioisotopes for medical purposes. If the Commission determines that the development of an adequate record requires that a public meeting be held in connection with this license application (XSNM 03171), AECL will seek to participate fully. However, AECL submits that, for the reasons set forth in this submission, NCI's request for a public meeting does not present a persuasive basis for holding

such a meeting. The Commission's need for an adequate record will be fully met by the Executive Branch views on this application, the NRC staff's recommendations, AECL's responses to questions and requests from the Executive Branch and the NRC Staff, NCI's December 18, 2000 letter and this response by AECL.

The Commission's rules (10 CFR § 110.81) encourage members of the public to provide "written comments from the public concerning export and import license applications." The Commission clearly is able to consider the views of NCI without taking the added step of holding a public meeting to allow NCI the opportunity to expand on its written comments. Moreover, if the Commission elects not to hold a public meeting in connection with AECL's application for a new export license, the Commission nevertheless will have an opportunity to address NCI's arguments during its annual review of XSNM 03060. Since NCI's letter deals almost entirely with XSNM 03060, the annual review of that license is clearly the appropriate time for the Commission to address these points, including discussion during a public meeting, if the Commission decides to call such a meeting. By the time of the NRC's annual review, MDS Nordion and AECL will have prepared and submitted their annual report concerning progress in converting from HEU to LEU targets for the MAPLE Reactors and the NPF, and the Executive Branch will have had the opportunity to provide its comments to the Commission concerning that report.

Rather than raise issues concerning the existing export license (XSNM 03060) during the annual review of that license, NCI asks the Commission to amend the license now. It is well settled, however, that after the Commission has issued a license, the appropriate means for a person to challenge the issuance of the license or to seek the suspension or amendment of the license is to file a petition, pursuant to 10 CFR § 2.206, requesting that the Commission initiate

enforcement action pursuant to 10 CFR § 2.202. *See Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 67, 77-78 (1992).

Moreover, persons who cannot gain admittance to a construction permit or operating license hearing, as was the case for NCI in the XSNM 03060 proceeding, may file a request under 10 CFR § 2.206 asking the Director to institute a proceeding to address those concerns. *Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), ALAB-707, 16 NRC 1760, 1767, 1768 (1982). *See Washington Public Power Supply System* (WPPSS Nuclear Project Nos. 1 and 2), CLI-82-29, 16 NRC 1221, 1228-1229 (1982).

Despite the fact that 10 CFR § 2.206 governs the Commission's consideration of NCI's request that the Commission amend XSNM 03060, NCI has not availed itself of the 10 CFR § 2.206 process. If NCI had followed the route specified in the Commission's rules for raising such a request, the Director of the Office International Programs would have had the opportunity to rule on that request. Under relevant Commission precedent, it appears that the Director, International Programs would deny the request since non-parties to a proceeding are prohibited from using 10 CFR § 2.206 as a means to reopen issues which were previously adjudicated. *General Public Utilities, supra*, 21 NRC at 564. *See, e.g., Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), CLI-78-7, 7 NRC 429 (1979), *aff'd*, *Porter County Chapter of the Izaak Walton League, Inc. v. NRC*, 606 F.2d 1363 (D.C. Cir. 1979). And NCI does not allege that AECL is somehow violating its existing export license. Relitigating the earlier export proceeding (XSNM 03060), to which NCI was not admitted as an intervenor, is precisely the intent of the NCI letter. Holding a public meeting to address NCI's request for an amendment of XSNM 03060 would improperly allow NCI to bypass the process set forth in §2.206.

AECL has an urgent need to begin the exports that are the subject of XSNM 03171 by March of 2001, for the reasons expressed in the attachment to its export license application. Consequently, any deferral of Commission action on application XSNM 03171 until completion of the Commission's annual review of XSNM 03060 will jeopardize the continued production of Mo-99 at the NRU and its target processing facility. A public meeting to address NCI's arguments with respect to XSNM 03171 is unnecessary since those arguments are fully conveyed to the Commission in NCI's written submission and are predominately directed at XSNM 03060.

III. HOLDING A PUBLIC MEETING TO ADDRESS NCI's CONTENTIONS IS UNNECESSARY, INCONSISTENT WITH COMMISSION PRECEDENTS AND CONTRARY TO THE APPLICANT'S WELL-DOCUMENTED NEED FOR A PROMPT COMMISSION DECISION

Although NCI has asked the Commission to call a public meeting rather than a hearing, the nature of NCI's proposed interaction with the Commission is similar (or perhaps more substantial) than it would have achieved through a hearing. Therefore, in considering NCI's request, the Commission's rules and precedents regarding petitions to intervene and for a hearing should be taken into account. When assessing whether to afford petitioners a discretionary hearing, the Commission routinely considers whether the "petitioner possesses expertise" on issues properly brought before the Commission and whether petitioner has "information not presently available to the Commission" on such matters. *In the matter of General Electric Co.*, (exports to Taiwan) CLI 81-2, 13 NRC 67, 71 (1981). *In Westinghouse Electric*, the Commission considered whether "petitioners possess special expertise in the matters they raise or information not presently available to the Commission." *In the matter of Westinghouse Electric Corp.* (export to South Korea) CLI-80-30, 12 NRC 253, 261 (1980). In determining that a discretionary hearing was not warranted in *General Electric Co.*, the Commission also took into

account the fact that petitioners' contentions within the scope of the export license proceeding had been addressed by "both the Executive Branch and the NRC...staff in their submissions to the Commission." 13 NRC at 71. The Commission stated that "in the absence of evidence that a hearing would generate significant new analyses, a public hearing would be inconsistent with one of the major purposes of the Nuclear Nonproliferation Act of 1978—that United States agencies enhance the nation's reputation as a reliable supplier of nuclear materials to nations which adhere to our nonproliferation standards by acting upon export license application in a timely fashion." *Id* at 72.

During the past decade, the Commission has repeatedly concluded that a discretionary hearing in an export license proceeding was not warranted because the Commission "could not conclude from Petitioners' submissions that they would offer anything in a hearing that will generate significant new information or insight" regarding the export license proceeding. *In the matter of Westinghouse Electric Corp.* (Nuclear Fuel Export license Application for Czech Republic), CLI 94-7, 39 NRC 322, 334 (1994); *In the matter of Transnuclear Inc.* (Exports of 93.3% Enriched Uranium) CLI 99-15, 49 NRC 366, 368 (1999).

In 1994, in an export proceeding involving the Schumer Amendment, the Commission denied NCI's petition to intervene and for a hearing on an export license application seeking authorization to ship 280kg of HEU to France for down-blending to LEU. *In the Matter of Transnuclear Inc.* (Export of 93.15% Enriched Uranium) CLI-94-1, 39 NRC 1 (1994). Rejecting NCI's argument that it had standing to intervene as a matter of right, the Commission observed that "the mechanism for increased public participation that NCI urges already is provided for in the Commission regulations" because the "regulations specifically set forth the Commission's policy to hold a hearing or otherwise permit public participation if the Commission finds that

such a hearing or participation would be in the public interest and would assist the Commission in making the required statutory determinations.” 39 NRC at p. 6. Refusing to grant NCI a discretionary hearing, the Commission observed that “there is no indication in NCI’s pleading, however, that it possesses special knowledge regarding these issues or that it will present information not already available to and considered by the Commission.” *Id.* The Commission further observed that “conducting a public hearing on issues concerning matters about which the Commission already has abundant information and analyses would be contrary to one of the purposes of the NNPA, namely ‘that the United States Government agencies act in a manner which will enhance the nation’s reputation as a reliable supplier of nuclear materials to nations which adhere to our nonproliferation standards by acting upon export license applications in a timely fashion.’” *Id.* at pages 7 - 8.

The Commission’s long-established precedents concerning the showings that an organization such as NCI must make in order to obtain a “hearing” are relevant to the circumstances under which the Commission should call a “public meeting.” In denying NCI’s request for a hearing and to intervene in AECL’s application for the license authorized by the Commission on June 29, 1999, (XSNM 03060), the Commission took into account the “numerous pleadings filed by the parties and the additional submissions filed in response to CLI-99-9” and concluded that “a hearing utilizing the procedures set forth in 10 CFR Part 110, Subparts H and I, is not necessary to provide the Commission with the information it needs to make its statutory findings.” *In the matter of Transnuclear Inc. (Exports of 93.3% Enriched Uranium)* CLI 99-15, 49 NRC 366, 368 (1999). Declining to hold a discretionary hearing, the Commission also observed that “a discretionary hearing would impose unnecessary burdens on the participants.” *Id.*

If NCI were seeking a hearing, the Commission would be required to assess, among other things, whether NCI possesses special expertise with respect to the contentions raised in its December 18, 2000 letter and whether in the absence of a hearing, the Commission will have an adequate record for its decision, based on the submissions of the NRC staff, the Executive Branch and the Applicant. Electing not to hold a hearing with respect to XSNM 03060, the Commission determined that the submissions of the NRC Staff, the Executive Branch and their written responses to the Commission's questions would afford an adequate basis for the Commission's decision-making. The Commission's denial of NCI's petition for a hearing and to intervene in XSNM 03060, was based, in part, on NCI's failure to show that it possessed special expertise or would contribute important information that would not otherwise be available to the Commission.

NCI does not state that it has technical expertise in the operation of the NRU, the MAPLE Reactors or the design of HEU and LEU targets for the production of radioisotopes. Consequently, NCI's participation in a public meeting is not necessary to assist the Commission in establishing the necessary record for its decision-making in XSNM 03171. In any event, many of the points raised by NCI have already been raised by the NRC Staff and Executive Branch and are addressed by AECL in its December 22, 2000 letter to the NRC Staff. If the Commission, the NRC Staff or the Executive Branch requires additional information in connection with their evaluation of XSNM 03171, they may obtain it through written questions or requests, as was the case with XSNM 03060. In any event, NCI has now raised its concerns relating to AECL's export license application, in its December 18, 2000 letter to Chairman Merserve, thus obviating the need for a public meeting.

In sum, NCI is not entitled to a public meeting as a vehicle for gaining the same access to the Commission that it would have obtained if it had successfully sought a hearing and to participate as an intervenor. To the extent that NCI has information that will assist the Commission, NCI is able to present that information in written form, as it did in its December 18, 2000 letter to Chairman Meserve.

AECL recognizes, of course, that the Commission has inherent authority to call a public meeting on this export license application if it decides that such a meeting will assist the Commission. If the Commission determines that such a meeting is desirable with respect to this license application (XSNM 03171), AECL will welcome the opportunity to participate. However, as discussed above, there is no need for such a meeting because the Commission has already been provided with a complete record, including NCI's views.

Holding a public meeting on application XSNM 03171 carries the risk of delaying Commission action on this application even if the Commission expedites such a meeting. For the reasons stated in its supplement to its application filed with the NRC on October 23, 2000, the HEU metal that is the subject of this application is urgently needed at AECL's Chalk River site by March of this year. A delay in exporting this material to Canada will raise a serious risk of disrupting the continued production of Mo-99 in the NRU Reactor pending a decision by the CNSC to allow the MAPLE Reactors to assume a fully operational status. Such a disruption would jeopardize the supply of Mo-99 to treat patients with serious illnesses. Therefore, AECL urges that the Commission rule promptly on this application and defer any decision regarding NCI's request for a public meeting until the Commission has had an opportunity to review the annual submissions of AECL-MDS Nordion and the U.S. Executive Branch in connection with XSNM 03060.

IV. NCI's ARGUMENTS LACK MERIT

In the appended chart, AECL responds to NCI's factual and technical contentions that (1) AECL should be required to continue operation of the NRU Reactor until the MAPLE Reactors and the NPF have been converted to operate with LEU; and (2) AECL's need for HEU targets for the MAPLE Reactors is reduced because of the delay in operating those reactors. NCI's arguments regarding the capacity of the FISST and AECL's continued operation of the NRU do not warrant Commission attention and should be left to the NRC Staff to resolve. Additionally, NCI's contentions are not within the scope of this export licensing proceeding. Moreover, NCI has not shown expertise to support its contentions. Finally, for the reasons set forth in the attachment, NCI's arguments lack merit.

January 5, 2001

**AECL's Response to Specific Allegations by NCI Concerning
Export Licence Application XSNM O3171
HEU for the NRU Reactor in Canada**

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
1.	<p>“The applicant’s incorrect representation of the potential capacity of the NRU waste tank led the Commission to issue the previous licence for HEU targets. This is a compelling example of how the applicant has benefited from conveying inaccurate information to the Commission.” [NCI Letter at p.3.]</p>	<p>AECL believes that the information it has conveyed to the Commission was accurate and responsive to the Commission’s questions. The Canadian Nuclear Safety Commission (CNSC) renewed the site licence for AECL’s Chalk River Laboratories (CRL) on November 26, 2000. The current licence NRTEOL-1.00/2002, which is valid from November 1, 2000 to October 31, 2002, authorizes AECL to operate the Fissile Solution Storage Tank (FISST) up to a maximum uranium concentration of 7.0 g/L and aluminium content of 1.51 mol/L. AECL has requested CNSC approval to increase the uranium concentration to 7.6 g/L and the aluminium content to 1.69 mol/L, which, depending on isotope processing yield and market demand for Mo-99, would extend use of FISST to about June 2002. A response from the CNSC is expected in January 2001. If approved, AECL will request an amendment to the CRL through a revision to Facility Authorization AECL-FA-07 for the Molybdenum-99 Production Facility.</p>

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
		<p>In July 1999, the CRL site licence authorized the operation of FISST up to a maximum concentration of 6.5 g/L. On March 24, 2000, the Atomic Energy Control Board (predecessor to the CNSC) approved an increase of the maximum uranium concentration in FISST from 6.5 to 7.0 g/L. AECL completed Rev. 6 of the Facility Authorization AECL-FA-07 in May 2000 and CNSC amended the CRL site licence accordingly.</p> <p>The forecast date for when FISST will reach its maximum authorized concentration of uranium and aluminium is difficult to predict precisely. It depends on the molybdenum-99 yield from each process run, which depends on many factors, including the operating power of the NRU reactor, the target irradiation time between maintenance shutdowns, and the market demand for Molybdenum-99, which has a half-life of only 66 hours.</p>
2.	<p>“Since no modifications are necessary to the MAPLE reactors but only to the NPF, there is no reason to believe that delaying start-up of the MAPLE reactors should delay conversion to LEU.” [NCI Letter at p. 3.]</p>	<p>The delay in completing the commissioning of the MAPLE reactors and NPF also delays the build-up of operating experience with radioactive targets. The NPF target processing and waste management systems have been designed for processing HEU targets.</p>

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
		<p>Tests with non-radioactive depleted uranium targets and representative solutions have been completed to demonstrate the operation of the NPF target processing and waste management systems. While these tests provide some information on systems operation, they are not fully representative of the technological requirements and limitations of routine medical isotope production with radioactive targets irradiated in the MAPLE reactors. For example, they do not account for the effects of decay heat in waste solutions and processing time to minimize loss of short-lived medical isotopes, such as Mo-99.</p> <p>Tests with irradiated targets are necessary, but cannot proceed at this time.</p> <p>The CNSC have required, in CMD 00-M74, dated November 27, 2000, that follow-up actions to assure the reliability of the MAPLE shut off rods and control absorber rods be completed before granting approval of any of the following activities:</p> <ul style="list-style-type: none"> • Phase C commissioning of MAPLE 1 • Fuel loading into MAPLE 2 • Hot (radioactive) commissioning of the NPF.

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
		<p>Consequently, representative tests that are been planned in the NPF with irradiated targets are being delayed until the start up of the MAPLE reactors. These tests will be conducted once AECL is satisfied it is safe to restart the MAPLE reactors and the CNSC grants the above-mentioned approval.</p> <p>The operational experience needed to understand the potential conversion process to LEU of existing NPF equipment will be gained through the processing of irradiated targets according to the same timeline needed to establish routine medical isotope production in the facility.</p> <p>These matters were discussed during the Commission's July 10, 2000 public meeting. AECL and MDS Nordion have advised the Commission that "critical heat flux and irradiation tests of the LEU targets will have to be performed to demonstrate the safety margins in the safety analysis report, and finally we will have to obtain CNSC approval at public hearings." [Transcript, July 10, 2000, Public Meeting at p. 10.] Moreover, AECL must "also establish a qualified program to manufacture test targets before they are available for the critical heat flux and</p>

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
		<p>irradiation test program.” In its May 31, 2000 Annual Report to the Commission and during the Commission’s July 10, 2000 public meeting, MDS Nordion explained why an integrated approach to LEU targets is necessary since the target affects the processing facility. [Transcript at p. 43.]</p> <p>Delaying the start-up of the MAPLE reactors and NPF does not affect the need for the total amount of HEU currently approved for export to the MAPLE reactors and the need to establish operating experience with existing NPF systems.</p>
3.	<p>“There is no evidence that the irradiation of HEU targets in the MAPLE reactors must be a precursor for conversion to LEU targets.” [NCI Letter at p. 4.]</p>	<p>The MAPLE reactors and NPF have been designed and approved by the CNSC for the production of medical isotopes with HEU targets.</p> <p>In response to questions from the Commission during the July 10, 2000 public meeting, Dr. Ian Trevena stated that the concept development phase (Phase 2 of the LEU conversion) was expected “to take about 18 months, going to the end of 2001. Therefore, the implementation phase (Phase 3) cannot begin earlier than the end of 2001.” For the reasons discussed at length in the public meeting, firm timetables for completion of the Implementation Phase cannot be specified at this time.</p>

	Nuclear Control Institute Comments – Reference December 18, 2000 Letter from P. Leventhal and A.J. Kuperman to The Honorable Richard Meserve, Regarding New Transnuclear Request for Export of HEU to Canada	AECL Response
		However, the completion of Phases 2 and 3 will extend years beyond the extended date that is anticipated for use of the NRU. Consequently, AECL's proposed extension of the use of the NRU for about 14 months, until about July 2002, does not allow sufficient time to convert the MAPLE Reactors and the NPF and receive regulatory approvals to operate with LEU targets.
4.	The Commission “should consider . . . (2) using this opportunity to encourage further US-Canadian cooperation to facilitate LEU target development for the MAPLE reactors before the NPF becomes operational. [NCI Letter at p. 5.]	As shown during the Commission’s July 10, 2000 public meeting and in the Annual Report that MDS Nordion submitted to the Commission on May 31, 2000, the ongoing HEU to LEU conversion program is being expeditiously implemented by MDS Nordion and AECL, working in cooperation with Argonne National Laboratory (ANL). AECL arranged a meeting with MDS Nordion at SGN offices on November 16, 2000, to finalize the scope and schedule of the Phase 2 Conversion Development Program, which is based on increasing the waste solidification capacity of the NPF. MDS Nordion communicated with ANL on the meeting and their participation in Phase 2 work, which includes precipitation studies. A meeting is being arranged with ANL and MDS Nordion at AECL’s Chalk River Laboratories in January 2001.